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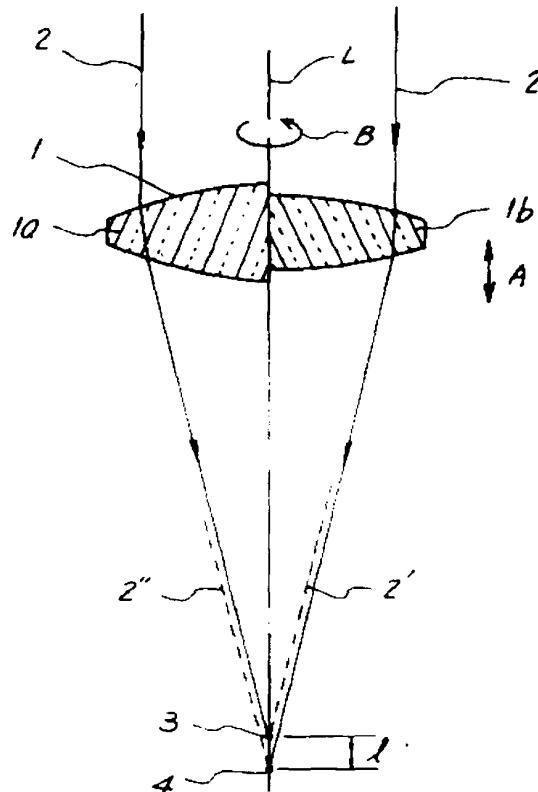
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INVENTOR : USUI YORIO;

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TITLE : LASER WELDING DEVICE



ABSTRACT : PURPOSE: To minutely adjust the distribution of input energy density in accordance with a thermal characteristic and a shape of a material to be welded and secure a highly reliable welding, by using a condenser composed of two pieces of lenses having a different focal distance each other.

CONSTITUTION: Condenser 1 is composed of two cut pieces of lenses 1_a and 1_b having a different focal distance each other, and condenses laser beam 2 at two different focal points 3 and 4. Moreover, one of two lens pieces 1_a and 1_b is allowed to move along the direction of optical axis L of laser beam 2 (along the direction of arrow A), and distance l between focal distances 3 and 4 is changed in accordance with said movement. In addition, condenser 1 is allowed to rotate around optical axis L, and, for instance, when condenser 1 is rotated along the direction of arrow B, laser beam 2 which has passed through lens pieces 1_a and 1_b generates condensing focus as shown by code 2' and 2''. Therefore, the melting characteristic effect of both under-focus and over-focus is combined and a larger melting amount is formed.

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